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TITLE: Using a residual image formed from a clipped limited color gamut digital image to represent an extended color gamut digital image

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Once the residual image 26 has been calculated, it should be associated in some fashion with the storage space digital image 24. This can involve storing the residual image 26 in a memory buffer that is associated with a second memory buffer used to store the storage space digital image 24. Alternatively, many applications will store the image data in a digital file 28 on some sort of digital storage media such as a magnetic disk, an optical disk, or a PCMCIA card using a digital file storage step 27. In this case, the storage space digital image 24 and the residual image 26 can be stored in two different files, or can be stored in the same digital image file. In many cases, the file format used to store the storage space digital image 24 may support the use of private image tags. For example, the file formats TIFF, EXIF and FlashPIX all support tags of this sort. These tags are sometimes referred to as meta-data. In cases where file formats of this type are used, it will be convenient to store the residual image data in the form of a residual image tag. In this way, applications that do not know how to make use of the residual image tag will simply ignore it, and will therefore have access only to the storage space digital image 24. Whereas applications that know how to

use the residual image tag will be able to make use of it to reconstruct the extended color gamut digital image. Some file formats place a limit on the size of tags, so compression of the residual image is important for these applications.